REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 1-70 are pending.

Applicant's remarks after Final are appropriate under 37 C.F.R. §1.116 because they address the Office's remarks in the Final Action, and thus could not have been presented earlier. In addition, the remarks should be entered to place the case in better form for appeal.

35 U.S.C. §102 Claim Rejections

Claims 1-70 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. US 2002/0152102, to Brodersen et al. (hereinafter, "Brodersen") (*Office Action* p.2). Applicant respectfully traverses the rejection.

Brodersen describes state model development of industrial and business processes and relates to business objects which model steps or states in a business process or in a manufacturing process (¶0001 and ¶0008). A "state model is created by selecting a template for the state model, and selecting industrial or business object components for the state model" (*Abstract*).

To the contrary, Applicant claims and describes a finite state model-based testing system that enables a user to define and generate a model *for testing a software application* (*Summary*, p.9, lines 2-3 and claim 1, for example). Additionally, a graphical user interface enables a user to define a state table and associated software application transitions from which a model generation engine

generates an entire model (i.e., state table) of the software application under test (*Summary* p.9, lines 8-11).

<u>Claim 1</u> recites a finite state model-based testing system comprising "a model generation engine to generate a model of a software application to be tested", and "a graphical user interface to enable user entry of parameters for defining the model."

Brodersen does not show or disclose "a model generation engine to generate a model *of a software application to be tested*", as recited in claim 1. Brodersen only describes state model development for industrial and business processes (*Abstract*). Further, there is no indication in Brodersen of even testing a state model that is developed to define an industrial or business process. Brodersen simply utilizes objects that include supplied functions, variables, and routines for incorporation into a program for a business or industrial process (¶0004 and ¶0028). Presumably, these supplied program components have already been tested for use in Brodersen.

The Office relies on the title and abstract of Brodersen to reject the "model-based testing system comprising a model generation engine", as recited in claim 1 (*Office Action* p.2). However, the Office disregards that claim 1 also recites the model generation engine "to generate a model of a software application to be tested". The Office states that (in Applicant's last response), "the applicant indicates that Brodersen does not generate to be tested" (*Office Action* p.2). This is incorrect and the Office has mischaracterized Applicant's previous response. As stated beginning at page 26, line 1 of the Response dated September 26, 2003,

Applicant asserted that Brodersen does not generate *a model of a software application* to be tested.

Additionally, the Office states that "nothing in the body of this claim refers to testing" (*Office Action* p.2). Again, claim 1 positively recites "a model of a software application *to be tested*". The Office further states that a Brodersen model comprises rules and conditions that inherently imply testing, and the Office relies on Brodersen ¶0010 "which indicates that prerequisites must be met (via testing)" (*Office Action* p.2). Applicant disagrees with this mischaracterization of Brodersen because ¶0010 says nothing about testing – the Office is relying on Applicant's disclosure to modify Brodersen in an effort to reject the present application. Further, the rules and conditions do not inherently imply testing, as the Office claims, because Brodersen describes at ¶0027 that a state model has permitted states and permitted transitions, which may inherently imply that there is no testing.

The Office also relies on Brodersen ¶0013 which "introduces testing and quality control steps" (*Office Action* p.2). Applicant disagrees that this testing referred to in Brodersen ¶0013 is applicable to a model of a software application to be tested, as recited in claim 1. Brodersen describes in ¶0013 that, for industrial models, testing and/or quality control steps may be introduced for manufactured equipment. There is no indication in Brodersen of a model of a software application to be tested, as recited in claim 1, or even of testing a state model, as described in Brodersen. Accordingly, claim 1 is allowable over Brodersen for these reasons alone.

Brodersen also does not show or disclose "a graphical user interface to enable user entry of parameters for defining the model", as recited in claim 1. Brodersen illustrates a user interface that is a state model view of a business process (Fig. 3; ¶0049). Brodersen says nothing about a graphical user interface to define a model of a software application to be tested, as recited in claim 1.

The Office relies on Brodersen at ¶0003 which indicates that users develop or define the model (*Office Action* pp.2-3). The "model" referred to as being developed in Brodersen is a business process. There is nothing in Brodersen to indicate that a user interface enables defining a software application to be tested, as recited in claim 1. Brodersen does describe at ¶0003 that there is a need for development tools to allow end users to develop business applications customized to their needs and derived from <u>supplied</u> base classes, functions, subroutines, and the like. As described above, Brodersen simply utilizes program components that are already developed and supplied.

Accordingly, for the reasons described above and for these additional reasons, claim 1 is allowable over Brodersen and Applicant respectfully requests that the §102 rejection be withdrawn.

<u>Claims 2-11</u> are allowable by virtue of their dependency upon claim 1. Additionally, some or all of claims 2-11 are allowable over Brodersen for independent reasons. For example:

<u>Claim 8</u> recites "a graph traversal menu to enable a user to select a graph traversal program and generate a test sequence of inputs for the software application." Brodersen does not show or disclose a graph traversal menu or any

test sequence of inputs for a software application, as recited in claim 8. The Office relies on Brodersen at ¶¶0013-15 and states that the "cycles, flows, steps, and states provides for graph traversal programs" (*Office Action* p.3). Applicant disagrees because the cycles, flows, steps, and states refer to actions that are business and industrial specific. Further, the Office is again relying on Applicant's disclosure to modify Brodersen in an effort to reject the present application.

The Office also relies on Brodersen Fig. 3 for a state model label, "State Model Transitions", that menus are provided via "Transitions", and for drop down boxes on the state model. There is no indication in Brodersen that any of these labels or drop down boxes can be relied upon to reject "a graph traversal menu to enable a user to select a graph traversal program and generate a test sequence of inputs for the software application", as recited in claim 8. Accordingly, claim 8 is allowable over Brodersen and the §102 rejection should be withdrawn.

Claim 9 recites "a graph traversal program to generate a test sequence of inputs for the software application"; Claim 10 recites "a test execution menu to enable a user to select a test driver program and initiate a test of the software application"; and Claim 11 recites "a test driver program to execute a test sequence of application inputs on the software application". As described above in the response to the rejection of claim 1, Brodersen does not show or disclose any such test features.

The Office rejects claims 9, 10, and 11 based on the rejection of claim 8. However, claims 9, 10, and 11 recite features that are not included in claim 8 and

there is no mention in Brodersen of a graph traversal program to generate a test sequence of inputs for a software application (claim 9), a test execution menu or a test driver program to initiate a test of the software application (claim 10), or a test driver program to execute a test sequence of application inputs on a software application (claim 11).

Applicant respectfully submits that a *prima facie* rejection of claims 9-11 has not been provided. The Office merely cites sections of Brodersen without any indication as to which features or aspects of Brodersen might be construed to reject claims 9-11. Without some indication as to the basis for the rejection, Applicant is unable to formulate a more detailed response. Accordingly, claims 9-11 are also allowable over Brodersen and the §102 rejection should be withdrawn.

Independent Claims 12, 28, 33, 38, and 49 recite features of a "user interface for testing a software application" (claim 12), a user interface "to define a model of a software application to be tested" (claims 28, 33), "a software application to be tested" (claim 38), and a user interface application "to facilitate user definition of a finite-state model to test a software application" (claim 49). As described above in the response to the rejection of claim 1, there is no indication in Brodersen of testing a software application, a software application to be tested, or a user interface to define a model of a software application to be tested.

Accordingly, claims 12, 28, 33, 38, and 49 are allowable over Brodersen and Applicant respectfully requests that the §102 rejection be withdrawn.

Claims 13-27 are allowable by virtue of their dependency upon claim 12 (either directly or indirectly); Claims 29-32 are allowable by virtue of their dependency upon claim 28 (either directly or indirectly); Claims 34-37 are allowable by virtue of their dependency upon claim 33 (either directly or indirectly); Claims 39-41 are allowable by virtue of their dependency upon claim 38; and Claims 50-55 are allowable by virtue of their dependency upon claim 49. Additionally, the dependent claims recite features similar to those of claims 8-11 and, as described above in the response to the rejection of claims 8-11, are allowable over Brodersen for these additional reasons.

Claim 42 recites a model editor "to define a model of a software application to be tested", "a model generation engine to generate the model of the software application", "a graph traversal program to generate a test sequence of inputs for the software application", and "a test driver program to read the test sequence of inputs for the software application and apply the test sequence to the software application".

As described above in the response to the rejection of claims 1 and 8-11, Brodersen does not show or disclose any of these features recited in claim 42. Brodersen says nothing about a software application to be tested, a graph traversal program to generate a test sequence of inputs for the software application, or a test driver program to apply the test sequence of inputs, as recited in claim 42.

The Office rejects claim 42 based on the rejection of claims 9 and 4. However, neither of claims 9 or 4 recite the features of claim 42, such as "a test

driver program to read the test sequence of inputs for the software application and apply the test sequence to the software application". Applicant respectfully submits that a *prima facie* rejection of claim 42 has not been provided because the Office has not indicated which feature or aspect of Brodersen might be construed as a test driver program as recited in claim 42. Without some indication as to the basis for the rejection, Applicant is unable to formulate a more detailed response. Accordingly, claim 42 is allowable over Brodersen and the §102 rejection should be withdrawn.

Claims 43-48 are allowable by virtue of their dependency upon claim 42.

Independent Claims 56, 65, and 67 recite methods comprising "presenting a graphical user interface that facilitates user entry of state information and transition information about a software application to be tested" (claim 56); "presenting a user interface that facilitates user entry of state information and transition information about a software application to be tested", "a graph traversal program that generates a test sequence of inputs for the software application", and "a test driver program that executes a test sequence of application inputs on the software application" (claim 65); and "generating a test sequence of inputs for the software application with a graph traversal program", and "executing a test sequence of application inputs on the software application" (claim 67).

As described above in the response to the rejection of claims 1, 8-11, and 42, there is no indication in Brodersen of testing a software application and Brodersen does not show or disclose a user interface for a software application to

be tested, a graph traversal program that generates a test sequence of inputs for the software application, or a test driver program that executes the test sequence of application inputs.

Accordingly, claims 56, 65, and 67 are allowable over Brodersen and Applicant respectfully requests that the §102 rejection be withdrawn.

Claims 57-64 are allowable by virtue of their dependency upon claim 56; Claim 66 is allowable by virtue of its dependency upon claim 65; and Claims 68-69 are allowable by virtue of their dependency upon claim 67.

Claim 70 recites a computer-readable medium comprising computer executable instructions that, when executed, direct a computing system to generate a test sequence of inputs for a software application to be tested with a graph traversal program and "execute a test sequence of application inputs on the software application".

As described above in the response to the rejection of claims 1, 8-11, and 42, there is no indication in Brodersen of testing a software application and Brodersen does not show or disclose a test sequence of inputs for a software application to be tested with a graph traversal program, or to "execute a test sequence of application inputs on the software application", as recited in claim 70.

Accordingly, claim 70 is allowable over Brodersen and the §102 rejection should be withdrawn.

Conclusion

Pending claims 1-70 are in condition for allowance and Applicant respectfully requests reconsideration and issuance of the subject application. If any issues remain that preclude issuance of this application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: Jan 26, 2004   By: _David A. Morasch_

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